



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

VS

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,108	03/23/2004	Gin-Der Wu	2019-0242PUS1	1882

2292 7590 03/07/2008  
BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
----------

SUTHERS, DOUGLAS JOHN

ART UNIT	PAPER NUMBER
----------	--------------

2615

NOTIFICATION DATE	DELIVERY MODE
03/07/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/806,108	WU, GIN-DER	
Examiner	Art Unit		
DOUGLAS SUTHERS	2615		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 26 December 2007.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 4,5 and 7 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 4,5 and 7 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 26 December 2007 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892).  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_\_

Art Unit: 2615

## DETAILED ACTION

2  
3  
4 The Art Unit location of your application in the USPTO has changed. To aid in  
5 correlating any papers for this application, all further correspondence regarding this  
6 application should be directed to Art Unit 2615.

9 Claims 1, 2, 3, and 6 have been cancelled, while claim 7 has been added.

10 Claims 4, 5, and 7 are pending and are addressed in this office action.

## *Drawings*

15 The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)  
16 because they do not include the following reference sign(s) mentioned in the  
17 description: .

18 Page 6 refers to second “adder 312” which is not found in figure 3.

19       Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in  
20      reply to the Office action to avoid abandonment of the application. Any amended  
21      replacement drawing sheet should include all of the figures appearing on the immediate  
22      prior version of the sheet, even if only one figure is being amended. Each drawing sheet  
23      submitted after the filing date of an application must be labeled in the top margin as  
24      either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the  
25      changes are not accepted by the examiner, the applicant will be notified and informed of

Art Unit: 2615

1 any required corrective action in the next Office action. The objection to the drawings  
2 will not be held in abeyance.

3

4 The drawings are objected to because items 117 and 125 appear to be switched  
5 in all figures.

6 Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in  
7 reply to the Office action to avoid abandonment of the application. Any amended  
8 replacement drawing sheet should include all of the figures appearing on the immediate  
9 prior version of the sheet, even if only one figure is being amended. The figure or figure  
10 number of an amended drawing should not be labeled as "amended." If a drawing figure  
11 is to be canceled, the appropriate figure must be removed from the replacement sheet,  
12 and where necessary, the remaining figures must be renumbered and appropriate  
13 changes made to the brief description of the several views of the drawings for  
14 consistency. Additional replacement sheets may be necessary to show the renumbering  
15 of the remaining figures. Each drawing sheet submitted after the filing date of an  
16 application must be labeled in the top margin as either "Replacement Sheet" or "New  
17 Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,  
18 the applicant will be notified and informed of any required corrective action in the next  
19 Office action. The objection to the drawings will not be held in abeyance.

20

21

22

***Specification***

Art Unit: 2615

1        The disclosure is objected to because of the following informalities: The

2        descriptions of items 117 and 125 are opposite the positions shown.

3        Appropriate correction is required.

4

5

6        ***Claim Rejections - 35 USC § 112***

7        The following is a quotation of the second paragraph of 35 U.S.C. 112:

8        The specification shall conclude with one or more claims particularly pointing out and distinctly  
9        claiming the subject matter which the applicant regards as his invention.

10        Claims 4 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being  
11        indefinite for failing to particularly point out and distinctly claim the subject matter which  
12        applicant regards as the invention.

13        Claim 4 recites the limitation "the first high-pass filter". There is insufficient  
14        antecedent basis for this limitation in the claim.

15        Claim 7 appears to be intended to be dependent on claim 5, in order to avoid  
16        antecedent basis problems, and will be treated as such in this action.

17

18

19        ***Claim Rejections - 35 USC § 103***

20        The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all  
21        obviousness rejections set forth in this Office action:

22        (a) A patent may not be obtained though the invention is not identically disclosed or described as set  
23        forth in section 102 of this title, if the differences between the subject matter sought to be patented and  
24        the prior art are such that the subject matter as a whole would have been obvious at the time the  
25        invention was made to a person having ordinary skill in the art to which said subject matter pertains.  
26        Patentability shall not be negatived by the manner in which the invention was made.

27

1  
2  
3       Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over  
4       Kamada et al. (US 5995631).

5  
6       Regarding claim 4, Kamada discloses an apparatus for processing audio signals,  
7       and processing left and right channel audio signals, comprising:

8           a first node (top of figure 1) receiving the left channel audio signal;  
9           a first low-pass filter processing unit (top figure 1) coupled to the first node;  
10          a first delay processing unit (top figure1) coupled to the first low-pass filter  
11        processing unit;  
12          a second node receiving the right channel audio signal;  
13          a second low-pass filter processing unit (bottom of figure 1) coupled to the  
14        second node;  
15          a second delay processing unit (bottom of figure 1) coupled to the second low-  
16        pass filter processing unit;  
17          a first subtracter (bottom of figure 1) coupled between the first node and the  
18        second delay processing unit, subtracting the output of the second delay processing  
19        unit from the output of the first node; and  
20          a second subtracter (top of figure1) coupled between the second node and the  
21        first delay processing unit, subtracting the output of the first delay processing unit from  
22        the output of the second node.

Art Unit: 2615

1        The embodiment of figure 1 does not expressly disclose isolation via high pass  
2        filters and gain units.

3        Kamada discloses in the embodiment of figure 19,  
4        a first gain unit (OP6) receiving and processing the left channel audio signal;  
5        a high pass filter processing unit (C50) coupled to the first gain unit;  
6        a second gain unit (OP7) receiving and processing the right channel audio signal;  
7        a second high-pass filter processing unit (C51) coupled to the second gain unit;  
8        wherein the first and the second gain units are used to prevent the first and the  
9        second high-pass filter processing units from being saturated (isolates and prevents  
10      capacitors from being saturated by the rest of the circuit).

11       At the time of the invention it would have been obvious to a person of ordinary  
12      skill in the art to use the circuit isolation of figure 19 with the system of figure 1. The  
13      motivation for doing so would have been to safeguard the systems against impedance  
14      mismatches and excessive current. Therefore, it would have been obvious to combine  
15      the embodiment of figure 19 with that of figure 1 to obtain the invention as specified in  
16      claim 4.

17  
18       Regarding claim 5, Kamada discloses a stage of the embodiment of figure 5A,  
19      further comprising:

20       a third subtracter (middle left) connected to the input right signal and the input left  
21      signal, mixing the input right signal with the input left signal;

Art Unit: 2615

1           a third gain unit (b, middle left) coupled to process the output of the third  
2           subtracter;  
3           a fourth subtracter (top right) connected to the input right signal, subtracting the  
4           output of the third gain unit from the input right signal; and  
5           a fifth subtracter (top left) connected to the input left signal, subtracting the output  
6           of the third gain unit from the input left signal.

7           At the time of the invention it would have been obvious to a person of ordinary  
8           skill in the art to use the embodiment of figure 5A as a stage after the combination of  
9           claim 4. The motivation for doing so would have been to add additional enhancement,  
10          gaining the benefits of the embodiments of figures 1 and 5A, including increased stereo  
11          width. Therefore, it would have been obvious to combine the embodiment of figure 5A  
12          with the combination of figure 4 to obtain the invention as specified in claim 5.

13  
14          Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamada  
15          et al. (US 5995631) in view of Jot et al. (US 5491754).

16  
17          Regarding claim 7, Kamada does not expressly disclose using a weighted  
18          summation.

19          Jot teaches the use of a weighted summation of the original signal and the  
20          processed signal in specialization of audio comprising:  
21            a gain unit (figure 2a, item 8) receiving and processing the original signal;

Art Unit: 2615

1           a first adder (9) coupled to the processed signal and the gain unit, combining the  
2   output of the processed signal and the output of the gain unit.

3           At the time of the invention it would have been obvious to a person of ordinary  
4   skill in the art to use the weighed summation of Jot in the system of Kamada. The  
5   motivation for doing so would have been to allow various amounts of effect and insuring  
6   at least some of the original signal gets to the output. Therefore, it would have been  
7   obvious to combine Jot with Kamada to obtain the invention as specified in claim 7.

8

9

10           ***Response to Arguments***

11           Applicant's arguments with respect to claims 1-6 have been considered but are  
12   moot in view of the new ground(s) of rejection.

13

14

15           ***Conclusion***

16           Applicant's amendment necessitated the new ground(s) of rejection presented in  
17   this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP  
18   § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37  
19   CFR 1.136(a).

20           A shortened statutory period for reply to this final action is set to expire THREE  
21   MONTHS from the mailing date of this action. In the event a first reply is filed within  
22   TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 2615

1 mailed until after the end of the THREE-MONTH shortened statutory period, then the  
2 shortened statutory period will expire on the date the advisory action is mailed, and any  
3 extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of  
4 the advisory action. In no event, however, will the statutory period for reply expire later  
5 than SIX MONTHS from the date of this final action.

6

7 Any inquiry concerning this communication or earlier communications from the  
8 examiner should be directed to DOUGLAS SUTHERS whose telephone number is  
9 (571)272-0563. The examiner can normally be reached on 8am - 5pm.

10 If attempts to reach the examiner by telephone are unsuccessful, the examiner's  
11 supervisor, Vivian Chin can be reached on (571)272-7848. The fax phone number for  
12 the organization where this application or proceeding is assigned is 571-273-8300.

13 Information regarding the status of an application may be obtained from the  
14 Patent Application Information Retrieval (PAIR) system. Status information for  
15 published applications may be obtained from either Private PAIR or Public PAIR.  
16 Status information for unpublished applications is available through Private PAIR only.  
17 For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should  
18 you have questions on access to the Private PAIR system, contact the Electronic  
19 Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a  
20 USPTO Customer Service Representative or access to the automated information  
21 system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

22

*D.S.* *V.C.*  
VIVIAN CHIN  
SUPERVISORY PATENT EXAMINER